

AMENDMENTS TO THE DRAWINGS:

Please add new Fig. 3 as shown in the New Sheet of drawings attached to this paper.

REMARKS

Claims 1-12 are pending in the application. Claims 1-3, 5, and 6 have been amended to define more clearly the claimed invention. Claims 7-12 have been added. It is believed and intended that no new matter has been added by this amendment. Reconsideration and allowance of all claims are respectfully requested in view of the following remarks.

I. Preliminary matters

The Applicants gratefully acknowledge the Examiner's indication of receipt of the priority papers submitted under 35 U.S.C. § 119 filed March 10, 2004 and of the Information Disclosure Statement filed April 28, 2004.

II. Drawing objection

The Examiner objected to the drawings filed on March 10, 2004, stating that the hollow cylindrical shaped fuel elements must be shown or the feature(s) canceled from the claim(s). A new drawing sheet depicting the hollow cylindrical shaped fuel elements is enclosed. An informal version is provided at this time, which will be formalized upon the Examiner's approval of the new sheet. Support for this drawing is provided in the specification at least in the last full paragraph of page 3. Care has been exercised so as not to introduce any new matter. The Examiner is respectfully requested to approve this new drawing as amended.

III. Specification amendments

The specification has been amended as shown above to correct a typographical error and to include a reference to new Figure 3. The Examiner is respectfully requested to enter these amendments.

IV. Claim rejections under 35 U.S.C. § 112

The Examiner rejected Claims 1-6 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More particularly, the Examiner objects to the terms "cord-type fuel line" in Claim 1 and "in a fill" in Claim 4.

"Cord-type fuel line" in Claims 1-3, 5, and 6 has been replaced with the term "elongated propellant strand". Applicants respectfully submit that the term "fuel line" was a slight mistranslation from the German term "Treibstoffstrang" and that "propellant strand" better captures the nature of the German term and the element in question. There is support for this amendment at least in Figs. 1 and 2 and at page 2, lines 24-25 of the specification. "Cord-type" has been retained in the description of the first gas generator to highlight the long, narrow structure of the first gas generator.

With respect to Claim 4, Applicants respectfully submit that Claim 4 uses the noun form of the word "fill". "Fill", as a noun, is defined as "...1 : a full supply...2a(1) : material used to fill a receptacle, cavity, or passage...."¹ "In a fill" is further explained in lines 19-20 of page 3 of the specification². Additionally, the fuel elements making up the fill are set forth in the specification as being of known shape and dimensions³ and are depicted in the Figures as being heaped in the housing without a specific or systematic arrangement. Therefore, the Applicants respectfully submit that the claimed fill of fuel tablets is adequately set forth in Claim 4.

¹ Webster's Third New International Dictionary (1993).

² "This fill can directly surround the cord-type fuel line and touch it."

³ Page 3, line 18.

Claims 1-3, 5, and 6 have been amended to overcome the rejections under 35 U.S.C. § 112, second paragraph. Such amendments are not made in response to the references cited in the Office Action and do not narrow the scope of the claims. The Examiner is respectfully requested to withdraw the rejection of Claims 1-6 under 35 U.S.C. § 112, second paragraph.

V. Claim rejections under 35 U.S.C. § 102

The Examiner rejected Claims 1-4 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,743,559, issued April 28, 1998 to Nakajima et al. (hereafter referenced as "the '559 patent"). The Applicants respectfully traverse this rejection for at least the following reasons.

Claim 1 recites an inflation device for a vehicle occupant restraint system. The inflation device includes a first pyrotechnic cord-type gas generator and a second pyrotechnic gas generator. The first gas generator has an elongated propellant strand and an igniter associated with the propellant strand. The second pyrotechnic gas generator has a housing and fuel elements arranged in the housing. The propellant strand passes through and extends beyond the housing of the second pyrotechnic gas generator and is adapted to ignite the fuel elements of the second gas generator.

The '559 patent does not teach or suggest first and second gas generators as recited in Claim 1. In the '559 patent, the elongated booster member element 13 is an ignition tube, which is not a gas generator. The booster member 13 of the '559 patent is ignited to generate ignition energy for the gas generant 15 contained within the combustion chamber 8 (col. 4, lines 37-51). The gas generant 15 generates the

combustion gas for inflating the air bag. The '559 patent thus clearly discloses only a single gas generator. In contrast, the first cord-type gas generator of the claimed invention is ignited by an igniter and is operative to generate gas (as combustion products) which can flow into the gas bag directly and which can also flow into the second gas generator and activate the fuel elements therein (specification page 6, lines 4-8) as recited in at least Claim 1.

Moreover, the '559 patent does not teach or suggest a propellant strand passing through and extending beyond the housing of the second pyrotechnic gas generator. The booster member 13 of the '559 patent is contained wholly within the housing 1 of the single gas generator. More specifically, the booster member 13 is contained wholly within the central cylindrical member 5, located within the housing 1, and thus cannot anticipate the propellant strand as claimed.

For at least these reasons, the '559 patent does not anticipate Claim 1 under 35 U.S.C. § 102(b) and the Examiner's rejection should be withdrawn.

Claim 3 recites that the cord-type gas generator has a housing adjoining the housing of the second pyrotechnic gas generator. The propellant strand passes through the housing of the second gas generator and is directly in contact with the fuel elements.

The '559 patent does not teach or suggest the propellant strand being directly in contact with the fuel elements, as recited in Claim 3. In the '559 patent, the gas generant 15 is isolated from the booster member 13 by the central cylindrical member 5.

For at least this reason, the '559 patent does not anticipate Claim 3 under 35 U.S.C. § 102(b) and the Examiner's rejection should be withdrawn.

The Examiner rejected Claims 1-6 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,998,751, issued March 12, 1991 to Paxton et al. (hereafter referenced as "the '751 patent"). The Applicants respectfully traverse this rejection for at least the following reasons.

The '751 patent does not teach or suggest a first cord-type gas generator having an elongated propellant strand, the propellant strand passing through a housing of a second gas generator and being adapted to release combustion products for igniting the fuel elements of the second gas generator, as presently claimed. Like the elongated booster member element 13 of the '559 patent, the fuse 46 of the '751 patent is a simple ignition member for igniting the gas generant and does not generate gas for inflating the air bag.

Moreover, both the igniter tube 36 and the fuse cord 46 of the '751 patent are contained wholly within the housing 12 and do not extend through the housing. Thus, the '751 patent does not teach or suggest the claimed propellant strand passing through the housing of the second pyrotechnic gas generator.

For at least these reasons, the '751 patent does not anticipate Claim 1 under 35 U.S.C. § 102(b) and the Examiner's rejection should be withdrawn.

The '751 patent also does not teach or suggest the propellant strand being directly in contact with the fuel elements, as recited in Claim 3. In the '751 patent, the gas generants 96, 120 are isolated from the fuse cord 46 by the igniter tube 36.

For at least this reason, the '751 patent does not anticipate Claim 3 under 35 U.S.C. § 102(b) and the Examiner's rejection should be withdrawn.

Since Claims 2-6 are dependent upon Claim 1, these Claims are patentable at least by virtue of their dependency as well as for the recitations therein. New Claims 7-12 contain similar limitations to the existing Claims 1-6 and therefore the above remarks, where applicable, are considered to also support the patentability of Claims 7-12. Allowance of Claims 1-12 is therefore respectfully requested.

VI. Claim rejections under 35 U.S.C. § 103

The Examiner rejected Claims 1-6 under 35 U.S.C. § 103(a) as being unpatentable over the '751 patent in view of PCT publication WO 01/08937, published February 8, 2001 by Gunter Herrmann (hereafter referenced as "the '937 publication"). The Applicants respectfully traverse this rejection for at least the following reasons.

The '937 publication appears to disclose a cord-type gas generator having a propellant strand 10 and a detonation element 18 (Abstract). The Examiner states that, if the interpretation of "cord-type fuel line" is considered to preclude the simple fuse of the '751 patent⁴:

[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to have put the cord-type generator of [the '937 publication] in the gas generator system of [the '751 patent] in view of the teachings to use this generator to help increase the rate of combustion.

⁴ Per the above discussion, the Applicants respectfully submit that such a fuse is, indeed, precluded from being the claimed propellant strand.

However, the Applicants respectfully differ with this statement for several reasons. First, as set forth above, the fuse cord 46 of the '751 patent is *not* a gas generator as the Examiner proposes, so the motivation relied upon by the Examiner is lacking.

Second, the solid propellant strand 10 of the '937 publication is located in a sleeve 12. The English-language portions and the drawings of the '937 publication seem to indicate that the sleeve is a solid piece of material, with no intermediate perforations along its length.⁵ As a result, if the generator of the '937 publication were substituted for the fuse cord 46 of the '751 patent, there would appear to be no way for the gas generated by the propellant strand 10 to escape the sleeve 12 along its length to enter the first and second compartments 32 and 34 of the '751 patent. For at least these reasons, combining the device of the '937 publication with the device of the '751 patent, as the Examiner proposes, would destroy the function of one or both of the two devices.

Third, the Examiner points out that one of ordinary skill in the art would heed the teachings (presumably of the '937 publication) to use the generator of the '937 publication to help increase the rate of combustion, presumably of the '751 patent. In contrast, however, the '751 patent is intended to *delay* combustion.⁶ Therefore, the '751 patent teaches away from such a combination as the Examiner suggests.

The Examiner is thus respectfully requested to withdraw this rejection.

Since Claims 2-6 are dependent upon Claim 1, these Claims are patentable at least by virtue of their dependency as well as for the recitations therein. Several of

new Claims 7-12 contain similar limitations to the existing Claims 1-6 and therefore the above remarks, where applicable, are considered to also support the patentability of Claims 7-12. Allowance of Claims 1-12 is therefore respectfully requested.

It is respectfully submitted that the above identified application is in condition for allowance, and allowance of the above-identified application is respectfully requested.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,



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⁵ If the Examiner has information to the contrary, she is respectfully requested to provide such to the Applicants.

⁶ Col. 8, line 67 through col. 9, line 31.